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Design Advisory Board

Meeting 7

Anna Stacey
31/01/2019

Agenda

1. Welcome, meeting overview and actions (Ofgem)

2. Review of the DWG evaluation of the preferred TOM, including settlement timetable, transition approach and consultation questions

3. Consumer impacts discussion (Ofgem)

Lunch

4. Block chain technology and Ofgems innovation link (Ofgem)

5. Update on export settlement

6. Presentation on Smart Export Guarantee

7. Future DABs

Objectives for today

- Update the DAB on the preferred TOM and input on TOM consultation questions
- Discussion on consumer impacts
- A presentation on block chain
- Update the DAB on export settlement and info on the SEG scheme.

Update on action items

Action item	Status
Ofgem to meet with Chris Allanson to discuss how to manage interaction between DSO transition and settlement reform	No longer required
Ofgem to organize a discussion with the DAB to have a talk on future technology (including block chain) and how they could interact or be used in settlement	To be completed in this meeting
Ofgem and ELEXON to consider how technology can reduce the timing for the first settlement run (below ten days) and if this is not possible, how a reduced timing could be transitioned into using a phased approach at the end state	Ongoing

Update on action items

Action item	Status
Ofgem to organise meeting with Graham Oakes and ELEXON to discuss potential architecture options for new settlement arrangements	To be completed (if still required)
Consider if statistical approaches can reduce how much data is needed to create load shapes for forecasting (i.e. is 1/30th of all consumption data enough – will it be useful to treat the load shape as a deviation from the long-run average rather than creating from scratch each day?) and discuss with Graham Oakes	To be completed
Ofgem to look at the security implications of having central settlement hold disaggregated MPAN data and if the data has to be disassociated with an MPAN, once no longer required for settlement, to remain secure	Ongoing

Update on action items

Action item	Status
ELEXON to look into whether dispute run data can help inform consideration on the appropriate settlement timetable	Completed
Ofgem to organise a discussion with the DAB and BEIS on the future of consumer issues in relation to settlement.	To be completed in this meeting
Ofgem to set up meeting with Catherine Mitchell, ELEXON and relevant teams in Ofgem to discuss the system operator role	To be completed
Elexon to discuss the impacts of switching on HHS with the Ofgem switching team.	To be completed

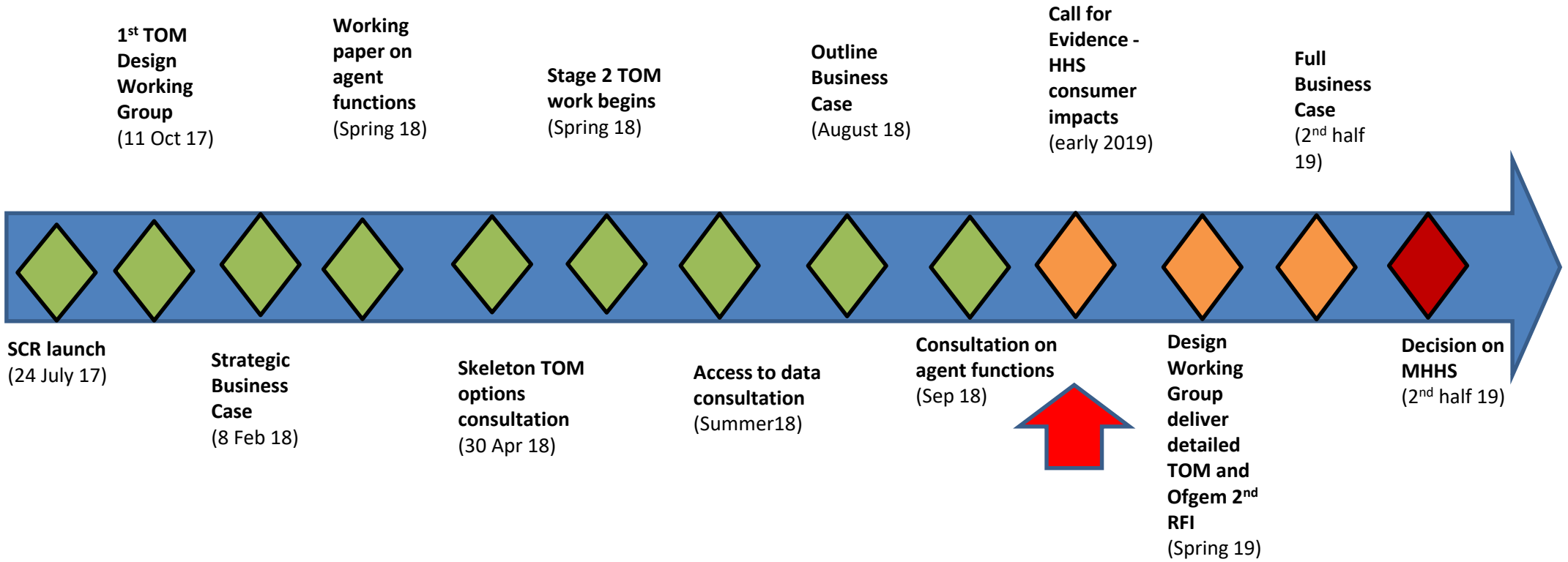
Update on action items

Action item	Status
Elexon to investigate how the architecture of the TOM will be funded and what the payment mechanism for this is.	To be completed
Action for the DWG to set out a number of scenarios of how migration and transition could occur and the pros/cons of these.	To be completed

Project Update

July 2017

Winter 2019



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Preferred TOM

Public

Design Advisory Board

DWG Update

31 January 2019
ELEXON

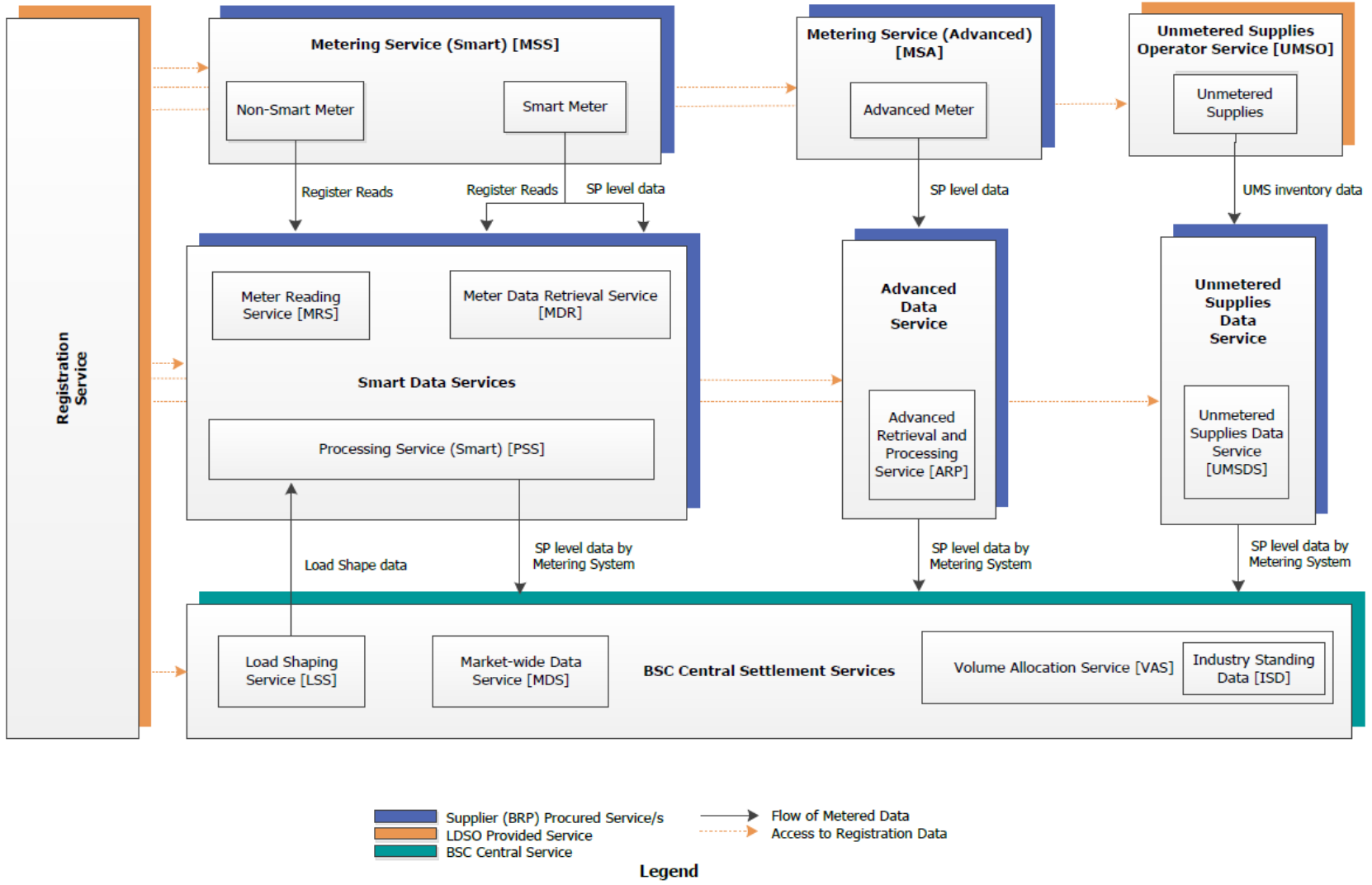
DWG Update

- DWG Meeting 15 January 2019
- The DWG Report
- Revised TOM Diagram
- Settlement Timetable
- Transition Approach
- Consultation Questions

DWG preferred TOM

Updated Diagram

DWG Preferred TOM



Settlement Purposes

What do we mean by data for Settlement Purposes?

At a minimum 'Settlement Purposes' means for use in the following areas:

- Calculation of a Supplier Deemed take in each Settlement Period;
- Use of data in the Imbalance Settlement calculations;
- Provision of data for Performance Assurance purposes;
- Use and provision of data by the Load Shaping Service;
- Provision of reports and data as set out in Section V - Reporting of the BSC;

Section V covers:

- Provision of Settlement reports to Suppliers;
- Provision of data to the ESO for network charging;
- Provision of data for LDSO for network charging; and
- Provision of data for EMR purposes (Capacity Market and CFD).

Provision of data for other 'regulatory purposes' is also included in the definition.

Non-Settlement Purposes

What do we mean by Meter data for non-Settlement purposes?

- As well as providing Meter data for Settlement, Meter data may be collected for non-Settlement purposes. This could include Meter data that is required for customer billing, energy management services, academic research and public interest initiatives.

DWG Stage 2 Report

Report Structure

DWG Stage 2 Report

- Report can be found at [Link]

Report is split into 4 Documents:

- Main report - Executive Summary, the TOM, Settlement Time table and initial transition approach work
- Attachment A – TOM Service and Data requirements
- Attachment B – DWG development of the TOM and Skeleton TOMs not progressed
- Attachment C – RAID log

The report is be accompanied with Service Requirements in spreadsheet form and Service and Process diagrams in .pdf and Visio format which will be better quality than snapshot in the report.

Settlement Timetable

DWG Recommendation

DWG's reduced Settlement timetable for the TOM

Run	Timing
Interim Information (II) Run	4 WD
Initial Settlement (SF) Run	5-7 WD (depending on DCC read capability)
Interim Reconciliation Run	33 WD
Final Reconciliation (RF) Run	4 months
Disputes Final (DF) Run	12 months or longer

- Likely to require changes to Performance Assurance Framework (e.g. performance targets and measures)
  - May not be as simple as just replacing one number with another
  - For example, existing distinction between 'actuals' and 'estimates' no longer meaningful under the TOM

Dispute Run timing and Disputes materiality threshold

- DWG could not agree on exact DF Run timing:
  - Subgroup recommended 12 months (aligns with Supplier back-billing cut-off)
  - DWG nervous that too short / impact on CVA errors
  - Difficulties in analysing / predicting future performance under shortened timetable (has analysed current performance)
  - Steer from Design Advisory Board and Ofgem that:
    - Assume quality of Meter data better than now
    - Settlement timetable should incentivise timely detection/correction of errors
    - Settlement timetable should not be based on current performance
    - Trading Disputes should not be the norm and only where significant materiality

Transition Approach

Initial Thoughts

Transition – Stakeholder views

- Transition Principles
- Transition Pre-requisites
- What is changing?
- Constraints to transition?

Transition – DWG Transition Principles

The DWG have set the following nine high level principles to be followed in the development of the transitional approach:

i) The transition approach shall not degrade the quality of Settlement data;

ii) Transition shall be phased in order to minimise impacts and risks;

iii) Different market segments can transition at different times;

iv) If the Department for Business, Energy & Industrial Strategy (BEIS) decides that Export must be registered for Settlement, then the transition approach for Export may be different to – and shall not slow down – the transition for Import;

v) The transition to MHHS shall not prevent customers using the existing elective HH process;

vi) The transition approach needs to balance the efficiencies of making HH Settlement a 'one-way gate' (i.e. preventing HH customers switching back to NHH during the transition) with not creating undue barriers to customers switching BRP;

vii) During transition, there shall not be dual processes operating at the same time for a single Meter on the same Settlement Day;

viii) The transition approach shall recognise when the existing arrangements are no longer viable.; and

ix) There shall be appropriate monitoring, reporting and enforcement of participants' progress during transition.

Transition – DWG Transition Pre-requisites

Transition pre-requisites

The DWG discussed whether there are any external events (outside the Significant Code Review (SCR)) that need to have occurred before the transition to MHHS can begin. For example, ELEXON suggested the following:

- Implementation of the Faster Switching arrangements;
- Adoption of SMETS1 Meters by the Data and Communications Company (DCC);
- Percentage of smart Meters rolled out; and/or
- Clarity on network charging requirements for Settlement data.
- Smart Metering Equipment Technical Specifications.

Transition – What is changing

- Code and Agreement Changes

Code	What's New?	Complexity Rating	Dependency Rating	Dependencies
BSC Changes	New services and systems	H	H	Enabling code changes need to be in place for when new services begin operating under the TOM.
SEC Changes	New SEC and DCC user roles and any associated qualification	M	H	New SEC parties and associated DCC permissions need to be in place before Smart data can be retrieved.
MOCOPA Changes	Recognising new roles (if required)	L	L	No real dependency and no fundamental change. Cutover should be relatively seamless.
DCUSA Changes	Dependent on data requirements for TCR/DUoS	L	M	TCR requirements need to be agreed before any DUoS reports can be specified.
MRA/REC Changes	Changes to registration and appointments process for new services Change of Change of Supplier process DTC/DTN changes	H	H	New interfaces need to be defined before Data Catalogue changes can be made. Changes to MPRS registration processes need to be progressed concurrently in BSC/MRA. New LDSO/SMRA requirements need agreement under MRA/REC and BSC.

Transition – What is changing

New Services

- Smart Data Services (Meter Data Retrieval, Processing and Meter Reading Service)
- BSC Central Systems (Market-wide Data Service and Load Shaping Service)

Adapted Services

- Registration
- Metering Services
- Unmetered Supplies Services (UMSO and UMSDS)
- Advanced Retrieval and Processing Service
- Volume Allocation Service

No Longer required

- NHHDC, NHHDA, HHDA and PrA Roles.

Consultation Questions

For DWG review and Stakeholder Event

Consultation Questions (1) (Proposed)

Question 1	Do you believe the DWG preferred Target Operating Model (TOM) is an efficient an appropriate way to deliver Market-wide Half-Hourly Settlement?
Answer: Yes/No	
Rationale:	

Question 2	Do you agree with the rationale used by the DWG in developing the TOM following the Ofgem 'Least Regrets' steer?
Answer: Yes/No	
Rationale:	

Question 3	Do you agree with the proposed Settlement Timetable and believe it to be achievable in the Target End State?
Answer: Yes/No	
Rationale:	

Consultation Questions (2) (Proposed)

Question 4	Can you identify any constraints to delivering the proposed Settlement Timetable and at what is the appropriate cut-off point for Dispute runs (if required)?
Answer: Yes/No	
Rationale:	

Question 5	Are there any essential Settlement processes missing from the detailed service requirements?
Answer: Yes/No	
Rationale:	

Question 6	Has the DWG identified all the correct Meter data to be processed by the three Data Services (SDS, ARP and UMSDS)?
Answer: Yes/No	
Rationale:	

Consultation Questions (3) (Proposed)

Question 7	Are there any specific aspects of TOM design that would present a barrier to new market entrants, technologies or innovations?
Answer: Yes/No	
Rationale:	

Question 8	Do you agree with the DWGs Transitional Principles and are there any others that should be included?
Answer: Yes/No	
Rationale:	

Question 9	Are there any Risks, Assumptions, Issues or Dependencies not identified that should be considered in the TOM development?
Answer: Yes/No	
Rationale:	

Next Steps

- MHHS Stakeholder Event – 6 February 2019
- DWG15 – Consultation Questions and Start work on Transitional approach
- ELEXON Drafting Consultation on the TOM
- TOM Consultation 4 weeks from end February
- DWG16 – 26 March (review responses depending on timing) continue transitional development.

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Consumer impacts

Aim

Using 4 related themes to gain a better understanding from stakeholders of the potential impacts for consumers (including distributional impacts) that may arise from implementing settlement reform, alongside considering related network access and charging options:

- Consumer ability and/or willingness to engage with their electricity usage
- Consumer ability to offer flexibility/load shift
- Consumer access to and ability/willingness to adopt innovative technology to offer flexibility
- Consumer ability to understand and choose a suitable tariff for them from potential new offerings in the market associated with offering flexibility/innovative technology

Exploring these themes at a workshop (8 February) through customer scenarios

Aim of scenarios - *developing a realistic picture of how consumers may interact in a future retail energy market where new products/technology are on offer to them and they are making choices about their tariffs. Include information about where their circumstances change to assess impacts that will inform discussion*

We are building upon some previous scenario discussions we undertook 18 months ago to understand if new information may be available about the consumer impacts of MHHS, and to include consideration of network access/charging options.

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Block Chain Technology and Innovation Link

Blockchain Summary

- Blockchain is unique in that it is **decentralised** and removes the need for **trust** between parties.
- It creates a ‘distributed ledger’. It’s easiest to understand these when thinking about how you could have a bank account without a bank.
- It allows for ‘smart contracts’. It’s easiest to understanding these when thinking about how you could buy a house without a solicitor.
- In energy, the ideas people are proposing *don’t* generally require blockchain. They could be done with other technology. For example, a flexibility market or an asset register could both be done with a trusted central database.
- Using blockchain would mean that you don’t need a trusted central database. You don’t need trust, or centralisation. That could **allow us to design the market differently, and avoid natural monopolies.**

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Update on Export Settlement

Export Settlement

OBC on Export Settlement

Export Settlement in scope of the current SCR

Rationale

Under BSC, optional to register and settle export from licence-exempt generation

- If opt-in to settlement then
  - Capacity > 30kW requires HHS
  - Capacity <= 30kW allows with NHHS or HHS

Currently the majority of small scale generation is not registered into settlement

- Therefore it is spilled onto the distribution network
  - It must still be accounted for in the settlement process

This spillage has negative effects

- Potentially causes cross-subsidies via GSPG correction process
- Significant impact on suppliers ability to forecast and purchase energy accurately

Export Settlement

OBC on Export Settlement – Rationale cont…

BEIS considering future beyond FIT…

ELEXON modelling estimated spill using FIT register data

- 2015 = 0.7 - 1 TWh
- 2016 = 1 - 1.2 TWh

Approx 800k FIT generators installed by March 2018

- Expect increasing non-FIT ' behind the meter' due to tech/storage advances
    - Therefore expect increasing magnitude of negative spillage effects

If all export metered and settled

- More accurate settlement
- Better reflection of the impact of generation on the networks

Export Settlement

OBC on Export Settlement

Benefits Case

Smart Meter rollout presents opportunity for accuracy and cost-reflectivity

MWHHS of export would help realise full benefits of MWSR

- Increase accuracy of volume allocation
- Increase accuracy and efficiency of balancing at distribution network level
- Increase suppliers forecasting ability and purchasing accuracy, reducing imbalance costs and wholesale energy price exposure

Expectation that suppliers pass cost savings onto customers in the form of cheaper bills

Facilitate implementation of future policy relating to small scale generation based on real data

- Incentivise export when system needs it / prices higher
- Reduce system balancing costs, wholesale prices, consumer bills

Export Settlement

OBC on Export Settlement – Benefits Case cont…

Incentivise suppliers to reward consumers who export energy at beneficial times for system

- Innovation, new business models
- Increased viability of SSG

Also costs of MWHHS of export

- Registration of export sites (assigning export MPAN)
  - Those not previously settled
  - And new ones
- Ongoing costs related to settling export sites
- Should not be extra costs related to metering (Smart meters can do this)

NB: HHS of export would not impact whether a customer received actual or deemed payments

- Obligation on FIT supplier to make payments on actual metered exports is triggered by installation of the export meter

Export Settlement

OBC on Export Settlement - Responses

Scope of Costs and Benefits

- Majority agreed on C&B identified, though more detailed analysis required, and some additional categories suggested
- Some suggested that the business case and subsequent implementation timeline for export settlement should be considered separately from import settlement, due to differences in current arrangements and required changes

Impacts for industry/organisations

- Relatively low costs v import settlement, but additional, and placing obligations on DNOs not covered in RIIO-ED1 settlement
- Resource stretch and forecasting issues
- Broader issues:
  - Co-ordination between energy supplier and export buyer (when different) in respect of meters, maintenance, emergency work etc.
  - Impacts on other processes such as registration, forecasting

Export Settlement

OBC on Export Settlement - Responses

Impacts for consumers

- Most agree that we should expect a positive impact due to savings from a more efficient system operation - cost reflective charging, better forecasting, better infrastructure decisions, removal of risk premium, avoidance of spill
- Concern that cost for changes applied to everyone, whereas direct benefits only to those who generate

Impacts for small-scale generators

- More engagement via innovation and new business models, particularly storage, and flexibility services
- Competition benefits assuming ability to contract separately for import/export

Export Settlement

Next Steps

RFI to cover:

- Costs for export settlement beyond import settlement
- Timeframes for implementation

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Smart Export Guarantee

Smart Export Guarantee

The future for small-scale low-carbon generation

Presentation to Design Advisory Board
31 January 2019

Smart Export Guarantee objectives

To support the transition to a cleaner, smarter and more flexible energy system our intention in this document is to consider future arrangements that would facilitate:

- **A route to market** - which supports small-scale low-carbon generation of electricity.
- **Market innovation** - Government has identified innovation as a central tenet of its Industrial Strategy.
- **Lowering of costs for consumers** - by supporting the development of the electricity system to provide consumers with affordable, low carbon electricity.
- **The transition to a smart and flexible electricity system** - by promoting the efficient use of electricity through price signals, which incentivise consumer behaviour that enables the efficient management of the grid i.e. promoting export when the grid is experiencing high demand.

Evidence gathered will inform future decisions as to whether, and how, to proceed with the Smart Export Guarantee (SEG).

SEG proposal summary

- Larger electricity suppliers (>250,000 customers) required to offer small-scale generators a price per kWh for electricity exported to the grid.
- Suppliers will be obligated to provide at least one tariff. They are free to determine the price and length of contract and offer other tariffs.
- Remuneration must be greater than zero. At times of negative pricing generators must not be required to remunerate suppliers for electricity exported to the grid.
- Electricity must be metered – for domestic installations we expect smart meters to enable this.
- Admin and monitoring duties to be carried out by Ofgem and suppliers.

SEG eligibility criteria

Eligibility criteria	SEG eligibility requirements
Technology type	AD, hydro, mCHP, onshore wind, and solar PV
Capacity limit	5MW limit
Metered export volumes	Electricity exported to the grid which has been generated by an eligible technology must be metered using a meter capable of metering HH export volumes
Installation certification	Solar, wind and mCHP installations up to and including 50kW must ensure they use MCS-certified (or equivalent scheme) equipment installed by an MCS-certified installer AD, hydro and all other technologies with installations above 50kW must as a minimum provide the same details required under the MCS certification process
Other support schemes	Installations in receipt of FIT support for the electricity generated, either for self-consumption or export to the grid, will be ineligible

SEG tariff options

Type of tariff	Design
Export metered and registered for settlement	Suppliers offer above-zero export to those who are metered and settled – might be a non-variable flat rate tariff
Simple variable tariff	Suppliers offer a simple ‘variable’ export tariff. Interpretation as to variability (e.g. day/night or weekday/weekend) and tariff rates would be up to the supplier. Must be metered and settled
Advanced variable tariff	Suppliers offer a ‘variable’ export tariff, to reflect energy system conditions on up to a HH basis. Interpretation up to supplier. Must be metered and settled
Variable tariff linked to market	As above, plus suppliers ‘link’ variable tariff to the market. Interpretation up to supplier but expectation is rise and fall linked to HH market (e.g. day-ahead wholesale) prices. Must be metered and settled
Variable tariff benchmarked to market	Further to the advanced variable tariff option, plus suppliers benchmark variable tariff HH market prices. Must be metered and settled

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Next DABs and closing remarks

Next DABs

Ofgem and Elexon will undertake a re-planning exercise for the year ahead.

Likely to have a DAB meeting at the following milestones:

- Mid April 2019 – following the consultation on the preferred TOM
- End of May/beginning June 2019 – Pre transition consultation
- August 2019 – Post transition consultation and prior to submission of final TOM.

There may be a requirement for some ad-hoc meetings. Once re-planning has been carried out we will send out a poll to confirm availability.